Abstract

Development policy that mainly focuses on economic growth has triggered increasing regional disparity in Indonesia, exacerbated by the concentrated development of growth centers that generate backwash effects rather than spillover effects. Balanced regional development is needed and can be initiated through a spatial system approach, where the growth centers and their hinterlands are developed simultaneously as an integrated system. The aim of this research is to define new growth centers that can stimulate the optimal utilization and interaction between regional resources for generating more balanced and efficient development. Three interrelated models are developed to address this: (1) an inter-regional input–output (IRIO) optimization model to generate optimal resource use and improve development performances, (2) a transport model to determine an optimal inter-regional input–output network, and (3) a P-median model to define new growth centers and their hinterland areas. Results from the first model show that setting land resource limitations, demand compliance, and goals to increase economic growth, people’s income, and government tax can create higher and equally distributed value of total output. The second model indicated that the optimal flow of input–output increased intensity of economic transaction among provinces, although it was still dominated by interaction between Java and Sumatra. The third model identified seven new growth centers comprising Medan, Tanjungpinang, Palembang, Balikpapan, Gorontalo, Makassar, and Ternate.